NEW SET OF CLAIMS

1. Process for the preparation of ampicillin in which 6-aminopenicillanic acid (6-APA) is subjected to an enzymatic acylation reaction with the aid of a phenylglycine derivative, with the total concentration of the 6-APA present in the reaction mixture, plus ampicillin, being greater than 250 mM, the concentration of 6-APA in solution being kept lower than 300 mM and the molar ratio of acylating agent to 6-APA employed, which molar ratio is defined as the total quantity of added phenylglycine derivative divided by the total quantity of added 6-APA, expressed in moles, being less than 2.5

2. Process according to Claim 1, in which the concentration of the 6-APA plus ampicillin present in the reaction mixture is greater than 300 mM.

3. Process according to Claim 1 or 2, in which the concentration of 6-APA in solution is kept lower than 250 mM.

4. Process according to any one of Claims 1-3, in which the molar ratio of the total acylating agent employed to 6-APA is less than 2.0.

5. Process according to any one of Claims 1-4, characterized in that the 6-APA and/or the phenylglycine derivative is metered in partially in the course of the enzymatic acylation reaction.

AMENDED SHEET

AMENDED CLAIMS

6. Process according to Claim 5, characterized in that the phenylglycine derivative is metered in as a salt of D-phenylglycine amide and an acid.

7. Process according to Claim 6, characterized in that the phenylglycine derivative is metered in the form of a solution of D-phenylglycine amide.$1/2H_2SO_4$ in water.

8. Process according to any one of Claims 5-7, characterized in that the metering of the phenylglycine derivative is controlled by means of pH measurement.

9. Process according to any one of Claims 1-8, characterized in that the pH of the reaction mixture is lowered as soon as near to maximum conversion is achieved.

10. Process according to any one of Claims 1-9, characterized in that the temperature of the reaction mixture is lowered as soon as near to maximum conversion is achieved.